

CLAIMS

We claim:

5           1.       A method for determining members of a group, comprising the steps  
of:

determining nested members of a first group; and  
reporting said nested members of said first group.

10           2.       A method according to claim 1, wherein:  
said nested members include members of multiple levels of nested groups.

15           3.       A method according to claim 1, wherein:  
said step of determining nested members includes recursively determining  
members of group members.

            4.       A method according to claim 1, wherein said step of determining  
nested members includes the steps of:

20           determining all static group members of said first group;  
determining all static and dynamic members of said group members of said  
first group;  
determining all group members of said group members of said first group; and  
determining all static and dynamic members of said group members of said  
group members of said first group.

25           5.       A method according to claim 1. further comprising the steps of:  
determining dynamic members of said first group; and  
reporting said dynamic members of said first group.

30           6.       A method according to claim 5, wherein:  
said first group and nested groups of said first group include rules defining  
criteria for being dynamic members.

7. A method according to claim 6, wherein said step of determining dynamic members includes the steps of:

determining a normalized set of said rules; and

5 determining which users are defined by said normalized set of said rules, said users defined by said normalized set of said rules are said dynamic members of said first group.

8. A method according to claim 5, further comprising the steps of:

10 storing an identification of said nested members and said dynamic members in one or more attributes of said first group; and

reporting said nested members and said dynamic members from said one or more attributes of said first group, without repeating said steps of determining dynamic members and determining nested members, in response to a request for  
15 members of said first group.

9. A method according to claim 5, further comprising the steps of:

storing an identification of said nested members and said dynamic members in a static member attribute of said first group; and

20 reporting said nested members and said dynamic members from said static member attribute of said first group, without repeating said steps of determining dynamic members and determining nested members, in response to a request for members of said first group.

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10. A method according to claim 1, further comprising the steps of:

determining static members of said first group;

determining dynamic members of said first group; and

reporting said static members and said dynamic members of said first group.

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11. A method according to claim 10, wherein:

said nested members include members of multiple levels of nested groups; and

said step of determining nested members includes recursively determining members of group members.

12. A method according to claim 11, wherein:

5 said first group and nested groups of said first group include rules defining criteria for being dynamic members; and

said step of determining dynamic members includes determining a normalized set of said rules and determining which users are defined by said normalized set of said rules, said users defined by said normalized set of said rules are said dynamic  
10 members of said first group.

13. A method according to claim 10, wherein:

said nested members include members of multiple levels of nested groups; and  
said steps of determining nested members, determining static members and  
15 determining dynamic members are performed by an integrated identity and access system.

14. A method according to claim 13, wherein:

said integrated identity and access system is capable of performing  
20 authorization services based on membership in said first group.

15. A method for identifying members of a group, comprising the steps of:  
determining dynamic members of a first group;

storing an identification of each of said dynamic members of said first group;  
25 receiving a request to report members of said first group, said request is received subsequent to said step of storing; and

reporting said dynamic members of said first group in response to said request, said reporting of said dynamic members is performed based on said stored identification of said dynamic members.

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16. A method according to claim 15, wherein:

said first group includes one or more static members;

an identification of each of said static members is stored in a static member attribute for an identity profile of said first group; and

said identification of each of said dynamic members is stored in said static member attribute for said identity profile of said first group.

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17. A method according to claim 15, wherein:

said first group includes one or more static members;

an identification of each of said static members is stored in a static member attribute for an identity profile of said first group;

10 said identity profile of said first group also includes an expansion attribute; and

said method can only be performed if said expansion attribute includes an appropriate value.

15 18. A method according to claim 17, wherein:

said identity profile of said first group also includes a dynamic rule attribute which stores a rule that defines dynamic membership for said first group; and

said method can only be performed for an entity having access to said expansion attribute and said dynamic rule attribute.

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19. A method according to claim 15, wherein:

said steps of determining and storing are automatically repeated.

20. A method according to claim 15, wherein:

25 said steps of determining, storing and receiving are performed by an integrated identity and access system.

21. A method according to claim 20, wherein:

30 said integrated identity and access system is capable of performing authorization services based on membership in said first group.

22. A method according to claim 15, further comprising the steps of:

determining nested members of said first group; and  
storing an identification of each of said nested members of said first group,  
said step of reporting includes reporting said nested members based on said stored  
identification of said nested members.

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23. A method according to claim 22, wherein:  
said nested members include members of multiple levels of nested groups.

24. A method according to claim 22, wherein:  
10 said step of determining nested members includes recursively determining  
members of group members.

25. A method according to claim 22, wherein:  
said first group includes one or more static members; and  
15 said step of reporting includes reporting said static members.

26. A method according to claim 15, wherein said step of determining  
nested members includes the steps of:  
determining all static group members of said first group;  
20 determining all static and dynamic members of said static group members of  
said first group;  
determining all static group members of said static group members of said first  
group; and  
determining all members of said static group members of said static group  
25 members of said first group.

27. A method according to claim 15, wherein:  
said first group and nested groups of said first group include rules defining  
criteria for being dynamic members; and  
30 said step of determining dynamic members includes the steps of determining a  
normalized set of said rules and determining which users are defined by said  
normalized set of said rules, said users defined by said normalized set of said rules are

said dynamic members of said first group.

28. A method according to claim 15, wherein:  
said first group includes one or more static members; and  
5 said step of reporting includes reporting said static members.

29. One or more processor readable storage devices having processor  
readable code embodied on said processor readable storage devices, said processor  
readable code for programming one or more processors to perform a method  
10 comprising the steps of:  
determining nested members of a first group; and  
reporting said nested members of said first group.

30. One or more processor readable storage devices according to claim 29,  
15 wherein:  
said nested members include members of multiple levels of nested groups.

31. One or more processor readable storage devices according to claim 29,  
wherein:  
20 said step of determining nested members includes recursively determining  
members of group members.

32. One or more processor readable storage devices according to claim 29,  
wherein said method further comprises the steps of:  
25 determining static members of said first group;  
determining dynamic members of said first group; and  
reporting said static members and said dynamic members of said first group.

33. One or more processor readable storage devices according to claim 32,  
30 wherein:  
said nested members include members of multiple levels of nested groups;  
said step of determining nested members includes recursively determining

members of group members;

said first group and nested groups of said first group include rules defining criteria for being dynamic members; and

5       said step of determining dynamic members includes determining a normalized set of said rules and determining which users are defined by said normalized set of said rules, said users defined by said normalized set of said rules are said dynamic members of said first group.

10       34.     One or more processor readable storage devices according to claim 32, wherein:

      said nested members include members of multiple levels of nested groups; and  
      said steps of determining nested members, determining static members and determining dynamic members are performed by an integrated identity and access system.

15       35.     One or more processor readable storage devices having processor readable code embodied on said processor readable storage devices, said processor readable code for programming one or more processors to perform a method comprising the steps of:

20       determining dynamic members of a first group;  
      storing an identification of each of said dynamic members of said first group;  
      and

      receiving a request to report members of said first group, said request is received subsequent to said step of storing; and

25       reporting said dynamic members of said first group in response to said request, said reporting of said dynamic members is performed based on said stored identification of said dynamic members.

30       36.     One or more processor readable storage devices according to claim 35, wherein:

      said first group includes one or more static members; and  
      said step of reporting includes reporting said static members.

37. One or more processor readable storage devices according to claim 36,  
wherein:

5 said steps of determining and storing are automatically repeated.

38. One or more processor readable storage devices according to claim 36,  
wherein:

10 said steps of determining, storing and receiving are performed by an integrated  
identity and access system.

39. One or more processor readable storage devices according to claim 36,  
wherein said method further comprises the steps of:

15 determining nested members of said first group, said nested members include  
members of multiple levels of nested groups; and

storing an identification of each of said nested members of said first group,  
said step of reporting includes reporting said nested members based on said stored  
identification of said nested members.

20 40. An apparatus that can determine members of a group, comprising:  
a communication interface; and  
one or more processor in communication with said communication interface,  
said one or more processor perform a method comprising the steps of:

25 determining nested members of a first group, and  
reporting said nested members of said first group.

41. An apparatus according to claim 40, wherein:  
said nested members include members of multiple levels of nested groups.

30 42. An apparatus according to claim 41, wherein said method further  
comprises the steps of:

determining static members of said first group;



determining dynamic members of said first group; and  
reporting said static members and said dynamic members of said first group.

43. An apparatus according to claim 42, wherein:

5       said first group and nested groups of said first group include rules defining  
criteria for being dynamic members; and

      said step of determining dynamic members includes determining a normalized  
set of said rules and determining which users are defined by said normalized set of  
said rules, said users defined by said normalized set of said rules are said dynamic  
10       members of said first group.

44. An apparatus that can determine members of a group, comprising:  
a communication interface; and

      one or more processor in communication with said communication interface,  
15       said one or more processor perform a method comprising the steps of:

      determining dynamic members of a first group, said first group  
includes one or more static members,  
      storing an identification of each of said dynamic members of said first  
group, and

20       receiving a request to report members of said first group, said request  
is received subsequent to said step of storing, and

      reporting said static members and said dynamic members of said first  
group in response to said request, said reporting of said dynamic members is  
performed based on said stored identification of said dynamic members.

25       45. An apparatus according to claim 44, wherein:

      said steps of determining and storing are automatically repeated.

46. An apparatus according to claim 44, wherein:

30       said steps of determining, storing and receiving are performed by an integrated  
identity and access system.

47. An apparatus according to claim 44, wherein said method further comprises the steps of:

determining nested members of said first group, said nested members include members of multiple levels of nested groups; and

5 storing an identification of each of said nested members of said first group, said step of reporting includes reporting said nested members based on said stored identification of said nested members.

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